

Please add the following new claims:

- 11 49. (New) A computer readable memory according to claim 30 wherein step c) comprises a ranking module.
- 12 50. (New) A computer readable memory according to claim 30 wherein said ranking module includes a van der Waals scoring function component.
- 13 51. (New) A computer readable memory according to claim 30 wherein said ranking module includes an atomic solvation scoring function component.
- 14 52. (New) A computer readable memory according to claim 30 wherein said ranking module includes a hydrogen bond scoring function component.
- 15 53. (New) A computer readable memory according to claim 30 wherein said ranking module includes a secondary structure scoring function component.
- 16 54. (New) A computer readable memory according to claim 30 that further assess the correspondence between potential energy test results and theoretical potential energy data.
- 17 55. (New) A computer readable memory according to claims 30, 36 or 49-53 further comprising physically generating at least one member of said set of optimized protein sequences and experimentally testing said sequence for a desired function.

#### CLAIM OBJECTIONS

Claims 31-35 have been canceled. New Claim 49 has been added to provide correct antecedent basis for original claims 31-35, canceled by this Amendment, and added as new claims 50-54 in order to correct the dependency of the claims as suggested by the Examiner. No new matter has been added by this Amendment to the claims because support for new Claims 49-54 may be found in original Claims 31-35, and in the Specification at page 7, lines 4-17. In light of the amendment to the claims, Applicants respectfully request the withdrawal of the objections to the claims.

In accordance with MPEP §608.01(n), Claim 48 has been canceled. New Claim 55 has been added to provide appropriate dependency. No new matter has been added by this Amendment. Support for new